

REMARKS

Initially, Applicants would like to thank the Examiner for acknowledging receipt and consideration of each of the documents listed on the PTO-1449 form submitted by Applicants with an Information Disclosure Statement on July 28, 2004.

However, Applicants note that the outstanding Official Action does not acknowledge receipt of the certified copy of the priority document upon which Applicants' claim for foreign priority is based under 35 U.S.C. §119. Applicants note that a certified copy of Japanese Application No. 2003-092203 was filed on March 28, 2003. Accordingly, Applicants respectfully request that the Examiner acknowledge, in the next Official Action, receipt of the certified copy of the above-noted priority document.

In the outstanding Official Action, claims 1-3 were rejected under 35 U.S.C. §102(b) over HAGIWARA (U.S. Patent No. 6,839,216). Applicants traverse this rejection, and submit that each of the claims now pending is not disclosed, suggested or rendered obvious by HAGIWARA. Initially, Applicants note that HAGIWARA is not available as prior art under 35 U.S.C. §102(b), as it was not "patented or described in a printed publication... more than one year prior" to the filing date of the present application. Accordingly, Applicants assume that the Examiner intended to reject claims 1-3 under 35 U.S.C. §102(e) over

HAGIWARA. If Applicants' assumption is incorrect, Applicants request that the Examiner clarify the basis of the rejection in the next Official Action.

Applicants have cancelled claims 1-3 without prejudice to or disclaimer of the subject matter recited therein. Applicants have added new claims 4-6 which recite subject matter generally similar to the subject matter originally recited in claims 1-3. However, Applicants have revised claims 4-6 to more clearly recite the features of the claimed invention, and to eliminate informalities. Applicants particularly note that claims 4-6 have not been added to overcome the rejection over HAGIWARA, and may in fact be considered "broader" than original claims 1-3.

Applicants respectfully submit that each of claims 4-6 is allowable over HAGIWARA. In this regard, HAGIWARA is directed to a "Solenoid Driving Device" (see Title) for a solenoid that drives an electromagnetic valve. Applicants respectfully submit that the solenoid driving device of HAGIWARA is not directed to driving an illumination apparatus such as the illumination apparatus recited in claim 4.

Further, the Official Action asserts, at page 2, that HAGIWARA discloses the invention previously recited in claim 1 at Figures 4 and 6-13, and at column 8, line 30 to col. 14, line 29. In this regard, claim 4, which includes features generally similar to those previously recited in claim 1, recites an "illumination

apparatus, comprising... an illumination head... at least one light emitting device being connected to the power supply circuit in the illumination head".

The outstanding Official Action asserts that the claimed "at least one light emitting device" is disclosed by the "free-wheel diode D" in HAGIWARA. In this regard, the "free-wheel diode D" in HAGIWARA is shown in Figures 4 and 5A, and described at col. 9, lines 1-3 and at col. 10, lines 30-37 and 56-59. However, the diode D is not a light emitting device. Rather, the diode D is a free-wheel diode for counter-electromotive-force interception. The free-wheel diode D of HAGIWARA protects the switches SW, such as a transistor and a field-effect transistor (FET), and feeds a load current to the solenoid in a particular direction. In particular, the free-wheel diode D of HAGIWARA protects the switches SW from the counter-electromotive force generated when emitting the energy accumulated in the solenoid.

Accordingly, the free-wheel diode D is not "at least one light emitting device being connected to the power supply circuit in the illumination head", as recited in claim 4. Therefore, if claim 4 is again rejected over HAGIWARA, Applicants respectfully request a specific indication of where the Examiner believes HAGIWARA discloses that the free-wheel diode D is "at least one light emitting device... connected to the power supply circuit in the illumination head", as recited in claim 4.

Applicants further submit that the free-wheel diode D of HAGIWARA does not disclose the features of "at least one light emitting device" recited in claims 5 and 6 (which recite features generally similar to the features previously recited in claims 2 and 3). In particular, Applicants respectfully submit that the free-wheel diode D of HAGIWARA does not disclose or suggest "at least one light emitting device connected to a power supply circuit", as recited in claim 5. Applicants further submit that the free-wheel diode D of HAGIWARA does not disclose or suggest "a power supply circuit in which at least one light emitting devices is connected", as recited in claim 6.

Applicants submit that HAGIWARA fails to disclose additional features recited in claims 4-6. For example, according to the invention recited in claim 4, the illumination head comprises "a current detection resistor that detects current flowing through a power supply circuit... wherein a resistance value of the current detection resistor is selected so as to cause a voltage drop equal to a predetermined reference potential when a rated current is supplied to each light emitting device".

A benefit of the invention recited in claim 4 is that proper current can flow to different lighting heads separately connected to a power unit. In particular, the current detection resistor has a resistance value selected so that a predetermined constant voltage drop can be generated when the current flowing to the power

supply circuit is a rated current. In contrast, the current detection resistance in HAGIWARA is used for overcurrent prevention, and its resistance value must be constant for current detection. Thus, if current flowing to a power supply circuit in HAGIWARA changes, a change will also occur in the voltage drop, whereas the "voltage drop equal to a predetermined reference potential" is caused by the selected resistance value according to claim 4.

Thus, since resistance values corresponding to the rated current of a lighting head can be selected according to the invention recited in claim 4, the same voltage drop occurs even if the rated currents flowing to a power supply circuit differ. Accordingly, the invention recited in claim 4 can provide benefits not realized in HAGIWARA. For example, when a new lighting head with a different rated current is connected to a power unit, the resistance value corresponding to the rated current is selected so that the potential of the voltage drop generating each rated current becomes constant.

Accordingly, Applicants respectfully submit that HAGIWARA does not disclose or suggest the "illumination head... comprising a current detection resistor that detects current flowing through a power supply circuit... wherein a resistance value of the current detection resistor is selected so as to cause a voltage drop equal to a predetermined reference potential when a rated current is supplied to each light emitting device", as recited in claim 4.

Applicants further submit that HAGIWARA does not disclose the features of claims 5 or 6 which are similar to the above-noted features recited in claim 4. In particular, HAGIWARA does not disclose or suggest "a current detection resistor that detects a current flowing in the power supply circuit, a resistance value of the current detection resistor being selected so as to cause a voltage drop equal to a predetermined reference potential when a rated current is supplied to each light emitting device", as recited in claim 5. HAGIWARA also does not disclose or suggest that "the illumination head includes a current detection resistor that detects a current flowing to a power supply circuit in which at least one light emitting device is connected, a resistance value of the current detection resistor being selected so as to cause a voltage drop equal to a predetermined reference potential when a rated current is supplied to each light emitting device", as recited in claim 6.

HAGIWARA also does not disclose or suggest provisioning for a different rated current, such as with "a power source device comprising a current controller... wherein the current controller controls the supplied current such that a potential for the voltage drop caused in the current detection resistor is equal to the predetermined reference potential", as recited in claim 4. In this regard, and as noted above, HAGIWARA does not disclose or suggest an ability to exchange lighting heads, and is not provisioned to address different rated currents which

might result from such different lighting heads. As noted above, the invention recited in claim 4 controls the current so that the current becomes equal to the rated current of the lighting head regardless of the type of lighting head connected to a power unit. As a result of the invention recited in claim 4, a consistent voltage drop can be generated by providing a different resistance value for different rated currents. Accordingly, Applicants respectfully submit that at least the above-noted features recited in claim 4 are not disclosed or suggested by HAGIWARA.

Applicants further submit that HAGIWARA does not disclose or suggest the features of claim 6 which are similar to the above-noted features recited in claim 4. In this regard, HAGIWARA does not disclose or suggest "a current controller... wherein the current controller is disposed such that a potential of the voltage drop caused in the current detection resistor is equal to the predetermined reference potential when the illuminating head is connected", as recited in claim 6.

Applicants have further added dependent claims 7-12, which respectively depend from claims 4-6, and which further define Applicants' claimed invention. Applicants respectfully submit that claims 7-12 do not add new matter to the present application. Further, Applicants respectfully submit that each of claims 7-12 is allowable at least for depending, directly or indirectly, from an allowable

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independent claim 4, 5 or 6, as well as for additional reasons related to their own recitations.

Accordingly, Applicants submit that each of claims 4-12 are allowable, at least for each and certainly for all of the reasons set forth above. At least because HAGIWARA does not disclose “each and every” feature recited in the claims now pending (i.e., as is required for a rejection under 35 U.S.C. §102 to be proper), Applicants respectfully request reconsideration and withdrawal of the outstanding rejection of claims 1-3, as well as an indication of the allowability of each of the claims now pending.

SUMMARY AND CONCLUSION

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so. Applicants have explained how the claims of the present application are not disclosed, suggested or rendered obvious by the reference applied in the outstanding Office Action. Accordingly, Applicants have provided a clear basis for the patentability of each of the claims now pending.

Any cancellation and/or addition of claims in this amendment, which has not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions or comments, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
M. TOYOTA et al.



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